14-Digit Hydrologic Unit Upgrade - Mark Caldwell, MDC and Terry Barney, NRCS

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The Missouri Department of Conservation, Fisheries Division and the Missouri Natural Resources Conservation Service, Resource Inventory and Assessment Team have signed a Memorandum of Understanding to enhance the current NRCS 14-digit hydrologic unit coverage. With no extra resources supporting this effort, the agencies are completing evaluations by 8-digit HUC basins as schedules allow. All changes will be carried out within the guidelines established by the new interagency Federal Standards for Delineation of Hydrologic Unit Boundaries.

The enhancement involves relocating some existing outlets and drainage boundaries and the creation of new drainage units at the lowest levels (the smaller 11 and 14-digit units) of the USGS's hierarchical watershed system. The 8-Digit HUC's will be unchanged. The enhancements are being done using the 24k stream line work being produced as part of the Missouri 1:24K NHD Project at MoRAP. Eight sub-basins have been completed. Typically, changes have produced: more 14-digit (sub-watershed) drainage units with a corresponding drop in average size; more small "connector" units; and fewer 11-digit drainage units (see map).

Evaluations and changes to improve ecosystem homogeneity will be done in concert with the Missouri Riverine Ecosystems Classification System's Level 6 Aquatic Ecological Systems (AES's) development underway at MoRAP as part of the Missouri Aquatic GAP Pilot Project. The AES process groups current 14-digit hydrologic units that possess similar soils, landforms, spring densities, stream gradients, geology, potential natural vegetation and complexes of valley segment types. Bringing these data sources together often highlights areas where a change in an existing drainage boundary allows for a more sharply defined AES and a more hydrologically correct watershed unit.

The resulting 12-digit hydrologic unit coverage will feature not only better hydrologic and ecological delineation, but also more extensive attribution and a new watershed coding scheme. The new 12-digit scheme (each of the six levels are represented with two digits) removes two unused digits from the old scheme, and will be consistent with the coding established by the interagency water data committees that introduced the hydrologic unit concept and compiled the 8–digit sub-basin units.